#### **Mathematics**

Laws, Rules and Legislation

Chapter 12 of the Iowa Administrative Code describes mathematics instruction at grade levels 1-12, which includes the following:

# 12.5 (3) Elementary program, grades 1-6.

c. Mathematics. Mathematics instruction shall include number sense and numeration; concepts and computational skills with whole numbers, fractions, mixed numbers and decimals; estimation and mental arithmetic; geometry; measurement; statistics and probability; and patterns and relationships. This content shall be taught through an emphasis on mathematical problem solving, reasoning, and applications; language and symbolism to communicate mathematical ideas; and connections among mathematical topics and between mathematics and other disciplines. Calculators and computers shall be used in concept development and problem solving.

## 12.5(4) Junior high programs, grades 7 and 8

c. Mathematics. Mathematics instruction shall include number and number relationships including ratio, proportion, and percent; number systems and number theory; estimation and computation; geometry, measurement; statistics and probability; and algebraic concepts of variables, patterns, and functions. This content shall be taught through an emphasis on mathematical problem solving, reasoning, and applications; language and symbolism to communicate mathematical ideas; and connections among mathematical topics and between mathematics and other disciplines. Calculators and computers shall be used in concept development and problem solving.

### 12.5(5) High school program, grades 9-12.

- c. Mathematics (six units). Mathematics instruction shall include:
  - (1) Four sequential units, which are preparatory to postsecondary educational programs. These units shall include strands in algebra, geometry, trigonometry, statistics, probability, and discrete mathematics. Mathematical concepts, operations, and applications shall be included for each of these strands. These strands shall be taught through an emphasis on mathematical problem solving, reasoning, and structure; language and symbolism to communicate mathematical ideas; and connections among mathematical topics and between mathematics and other disciplines. Calculators and computers shall be used in concept development and problem solving.
  - (2) Two additional units shall be taught. These additional units may include mathematical content as identified in, but not limited to, paragraphs 12.5(3) "c," and 12.5(4)"c," and 12.5(5)"c"(1). These units are to accommodate the locally identified needs of the students in the school or school district. This content shall be taught through an

emphasis on mathematical problem solving, reasoning, and structure; language and symbolism to communicate mathematical ideas; and connections among mathematical topics and between mathematics and other disciplines. Calculators and computers shall be used in concept development and problem solving.

The mathematics programs and initiatives put forth by the Department of Education reflect these descriptions and the provisions for mathematics in the No Child Left Behind legislation.

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